

What Is Claimed Is:

1. A sensor system having a sensor (10) for measuring a gas parameter of a test gas, in particular the oxygen concentration in the exhaust gas of an internal combustion engine, having a measuring element (13) that is accommodated in a housing (12) and projects therefrom at least on the test gas side at a protruding section (131); and having a test-gas line (11), through which the test gas flows, in particular an exhaust-gas pipe of the internal combustion engine, including a sensor insertion opening (25) and a receiving element (26) for the housing (12), which surrounds the insertion opening (25) and is attached to the test-gas line (11); and having an assembly aid that reproducibly creates a predefined alignment of the protruding section (131) of the measuring element (13) in the test-gas flow and has an allocation element situated at the housing (12) and oriented with respect to the installation position of the measuring element (13) and an allocation element situated at the receiving element (26) and oriented with respect to the test-gas flow,

wherein the receiving element (26) has an internal thread (28), the piercing point of which forms the allocation element oriented with respect to the test-gas flow; the housing (12) bears an external thread (34), which is able to be screwed into the internal thread (28), and the piercing point of which forms the allocation element oriented with respect to the measuring element (13); and the housing (12) is fixed in the receiving element (26) via a predefined tightening torque.

2. The sensor system as recited in Claim 1, wherein a marking (36), which provides an orientation for the installation of the measuring element (13) and is oriented with respect to the piercing point of the external

thread (34), is positioned on housing (12).

3. The sensor system as recited in Claim 2, wherein the marking (36) is a blind hole (37) radially introduced into the housing (12).

4. The sensor system as recited in the preamble of Claim 1, in which the receiving element (26) has an internal thread (28) and a housing support shoulder (27), and the housing (12) has a radial flange (23) that rests on the housing support shoulder (27) and is tightened to the housing support shoulder (27) via a hollow screw (24) that overlaps the housing (12), wherein the allocation element situated at receiving element (26) is an axial groove (29), which runs in the region of the internal thread (28) and runs out freely at the front end, and the allocation element formed at housing (12) is a projection (30), which protrudes radially over the housing periphery and projects into the axial groove (29) in a form-locking manner at least in the groove width.

5. The sensor system as recited in Claim 4, wherein the projection (30) is integrally formed in one piece on the housing (12).

6. The sensor system as recited in Claim 4, wherein the projection (30) is part of an insertion pin (32) fixed in a radial bore hole (33) in the housing (12).

7. The sensor system as recited in Claim 4, wherein the projection (30) is part of a preferably flat insertion ring (31), which lies on the housing (12) on the flange surface of the radial flange (23) facing the hollow screw (24) and is connected to the housing (12) in a rotationally fixed manner.

8. The sensor system as recited in Claim 7,
wherein the insertion ring (31) is pressed against the
housing (12).

9. The sensor system as recited in Claim 7 or 8,
wherein the periphery of the housing (12) has a flat section
(121), and the insertion ring (31) is bent in its ring
region (311) allocated to the flat section (121) such that
the ring region (311) lies flat against the flat section
(121).

10. The sensor system as recited in Claim 9,
wherein the bent ring region (311) lies diametrically
opposite the projection (30).

11. The sensor system as recited in one of Claims 1 through
10,
wherein the receiving element (26) is a hollow connecting
piece that is insertable into a wall opening (25) into the
line wall (111) of the test-gas line (11) and is welded to
the line wall (11).